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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/478,849 01/06/00 KELLY

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EXAMINER

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3883 TELEGRAPH ROAD SUITE 207
BLOOMFIELD HILLS MI 48302-1476

NGUYEN, T

2872

ART UNIT	PAPER NUMBER
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DATE MAILED:
09/18/00

4

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary	Application No. 09/478,849	Applicant(s) Shawn L. Kelly
	Examiner Thong Q. Nguyen	Group Art Unit 2872

Responsive to communication(s) filed on _____.

This action is **FINAL**.

Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire THREE month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

Claim(s) 1-75 is/are pending in the application.

Of the above, claim(s) _____ is/are withdrawn from consideration.

Claim(s) _____ is/are allowed.

Claim(s) 1-75 is/are rejected.

Claim(s) _____ is/are objected to.

Claims _____ are subject to restriction or election requirement.

Application Papers

See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

The drawing(s) filed on Jan 6, 2000 is/are objected to by the Examiner.

The proposed drawing correction, filed on _____ is approved disapproved.

The specification is objected to by the Examiner.

The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

All Some* None of the CERTIFIED copies of the priority documents have been received.

received in Application No. (Series Code/Serial Number) _____.

received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____.

Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

Notice of References Cited, PTO-892

Information Disclosure Statement(s), PTO-1449, Paper No(s). 3

Interview Summary, PTO-413

Notice of Draftsperson's Patent Drawing Review, PTO-948

Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

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DETAILED ACTION

Reissue Applications

1. Applicant is reminded of the continuing obligation under 37 CFR 1.56 to timely apprise the Office of any litigation information, or other prior or concurrent proceeding, involving Patent No. 5,706,137, which is material to patentability of the claims under consideration in this reissue application. This obligation rests with each individual associated with the filing and prosecution of this application for reissue. See MPEP §§ 1404, 1442.01 and 1442.04.
2. The original patent, or an affidavit or declaration as to loss or inaccessibility of the original patent, must be received before this reissue application can be allowed. See 37 CFR 1.178.
3. The reissue oath/declaration filed with this application is defective because it fails to identify at least one error which is relied upon to support the reissue application. See 37 CFR 1.175(a)(1) and MPEP § 1414.

The reissue application contains 75 claims in which claims 10-75 are newly-added into the reissue application. In the set of the newly-added claims 10-52 and 66-75, the claims are directed to a scope which is broader than the scope of claims 1-9 of the original application; however, the Oath/declaration fails to provide the statements to specify that the original claims 1-9 were too narrow in scope as an error. It is also noted that in the newly-added claims 53-56, the claims are directed to a method having scope broader than the scope of claims 1-9 of the original application; however, the Oath/declaration fails to provide the statements to specify that the original claims 1-9 were too narrow in scope as an error. It is not sufficient for an

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Oath/Declaration to merely state the only error is that applicant has failed to claim a method which features recited in the newly-added claim 57. Rather, the Oath/Declaration must specifically identify at least one error for different set of newly-added claims which sets are directed to different scope boarder than the scope of the claims of the original application.

4. The reissue oath/declaration filed with this application is defective because it fails to contain a statement that all errors which are being corrected in the reissue application up to the time of filing of the oath/declaration arose without any deceptive intention on the part of the applicant. See 37 CFR 1.175 and MPEP § 1414.

5. Claims 1-75 are rejected as being based upon a defective reissue Declaration under 35 U.S.C. 251 as set forth above. See 37 CFR 1.175.

The nature of the defect(s) in the Declaration is set forth in the discussion above in this Office action.

6. Claims 31-41, 57-60, 63-64, 66-68, 74 and 75 are rejected under 35 U.S.C. 251 as being an improper recapture of claimed subject matter deliberately canceled in the application for the patent upon which the present reissue is based. As stated in *Ball Corp. v. United States*, 221 USPQ 289, 295 (Fed. Cir. 1984):

The recapture rule bars the patentee from acquiring, through reissue, claims that are of the same or broader scope than those claims that were canceled from the original application.

The mentioned claims are boarder in scope than claims 1-9 of the original application. For instance, claim 31 is boarder than the claim 8/1 of the original application. The only feature in

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claim 31 of the reissue application is the feature concerning the re-imaging means for intercepting a portion of light; however, such feature is completely unrelated in the rejection of the original application.

Each of claims 32, 33, 57, 66 is broader than the claim 7/1 of the original application. The only feature in each of claims 32-33 is the feature concerning the light redistributing means for expanding the core of the incident light beam; however, such a feature is claimed in claim 8/1 of the original application, and thus the scope of claims 32-33 is the same as that of claims 1, 7/1 and 8/1 of the original application. With regard to claim 57, the only feature is the claim 57 of the reissue is directed to a method; however, such a method is clearly an inherent feature read from the scope of claim 7/1 of the original application. With regard to the claim 66 of the reissue application, the only feature is directed to a virtual image formed by the re-imaging means; however, such a feature completely unrelated in the rejection of the original application. With regard to the dependent claims of claims 32, 33, 57 and 66, it is noted that all of the features are inherent from the scope recited in claims 1-9 of the original application.

Drawings

The drawings are objected to because the use of the numerical reference "310" in figure 4 is incorrect. Applicant should note that the image source is labeled as --310-- as can be read in the specification at columns 7 and 8. Correction is required.

Specification

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1. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.
2. The disclosure is objected to because of the following informalities: Page 8, line 16, "the intermediate image 310" should be changed to --intermediate image 314--. Applicant should note that the reference "310" is used to refer to an image source as can be read on the same page, lines 1, 4, 8, etc.. Appropriate correction is required.

Claim Rejections - 35 USC § 112

A) The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Each of claims 44 and 45 is rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for use re-imaging means for re-imaging an intermediate image wherein the re-imaging means comprises a lens or a combination of lenses, does not reasonably provide enablement for use re-imaging means for re-imaging an intermediate image wherein the re-imaging means comprises a curved surface. Applicant should note that an element having a curved surface can be a curved mirror or a prism having a curved surface, etc.. wherein the curved mirror or curved prism has not taught by the present specification. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make the invention commensurate in scope with these claims.

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B) Claim 65 is rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The disclosure, as originally filed, does not discloses an optical system or discloses a method of generating an image wherein the method comprises the step of converging the operation of converging the light redistributed from a light redistributing screen prior or to the step of re-imaging the light as claimed.

C) The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 3, 6, 42-43, 53-55 and 56 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

a) Claim 3 is indefinite because the feature “the mirror surface” (lines 2-3) lacks a proper antecedent basis.

b) Claim 6 is indefinite because the feature “said reflective surface” (line 3) lacks a proper antecedent basis.

c) Claim 42 is unclear by the recitation thereof “said intermediate...aberration” (lines 1-2).

What does applicant mean by “one third aberration” (line 2)?

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- d) Claim 43 is rejected for the same reason as set forth in element c) above.
- e) Claim 54 is indefinite because the claim recites a method while the base claim 47 is directed to an apparatus. Should the number "47" appeared on line 1 of claim 54 be changed to --53-- which claim recites a method?
- f) Each of claims 55-56 is rejected for the similar reason as set forth in element e) above.
- g) Claim 53 is indefinite because the feature "the sign" (line 4) lacks a proper antecedent basis.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371© of this title before the invention thereof by the applicant for patent.

Claim 31 is rejected under 35 U.S.C. 102(e) as being anticipated by Kato et al (U.S. Patent No. 5,187,597).

Kato et al disclose an optical display apparatus. The apparatus comprises an information source (1), a means (3) in the form of a lens for forming an intermediate image, a concave holographic reflector (4) disposed at the position of the intermediate image for reflecting the intermediate image to an observer. With regard to the feature concerning the re-imaging means for re-imaging the intermediate image reflected from the curved holographic reflector, such a

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feature is able to read from the display apparatus because the re-imaging means as claimed can be the eyes of an observer as admitted by the applicant in the present specification at column 3 (lines 24-27).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claim 31 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wood (U.S. Patent No. 4,669,810) in view of Kato et al (U.S. Patent No. 5,187,597).

Wood discloses an optical system having an information source in the form of a cathode-ray-tube (20), a means (26) including a plurality of lens elements for forming an intermediate image (54) of the information source, a reflective holographic element (28) disposed near the intermediate image for reflecting the image towards an optical system (32,34,36) for re-imaging the intermediate image for the purpose of providing an image to an observer. See Wood, columns 3-4 and 6-7 and figs. 2-4. It is also noted that the holographic element (28) has a curved surface and used to correct for the aberrations caused by the reimaging means as can be seen in columns 3-4 and 6. While Wood teaches the arrangement of the holographic element (28) near the position of the intermediate image formed by the imaging means (26), he does not clearly state that the position of the holographic element is located proximately to the position of the intermediate

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image as claimed. However, the use of an information source, a means for forming an image of the source, and a curved reflecting element at the position of the intermediate image is suggested to one skilled in the art as can be seen in the optical system provided by Kato et al. See column 8 and fig. 9. Thus, it would have been obvious to one skilled in the art at the time the invention was made to modify the optical system provided by Wood by rearranging the position of the holographic element (28) at a position proximately or on the position of the intermediate image formed by the imaging means as suggested by Kato et al for the purpose of providing an image with better focus and brightness while still maintaining the function of correcting the image aberrations occurred by the imaging means and the reimaging means in the system.

2. Claim 31 is rejected under 35 U.S.C. 103(a) as being unpatentable over Freeman (U.S. Patent No. 5,477,385) in view of Kato et al (U.S. Patent No. 5,187,597).

Freeman discloses an optical magnifying system having an object (10), a means (11) including at least one lens elements for forming an intermediate image (14) of the object, a curved reflective element (14) disposed on the position of the intermediate image for reflecting the image towards an observer via a viewing lens (5). See Freeman, columns 1-2 and single figure. With regard to the feature concerning the re-imaging means for re-imaging the intermediate image reflected from the curved holographic reflector, such a feature is able to read from the display apparatus because the re-imaging means as claimed can be the eyes of an observer as admitted by the applicant in the present specification at column 3 (lines 24-27). The only feature missing from

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the magnifying system of Freeman is that it does not clearly state that the curved reflecting element has a means for expanding a core of light incident onto the reflecting element; however, the use of an information source, a means for forming an image of the source, and a curved reflecting element at the position of the intermediate image wherein the curved reflecting element has a means in the form of a holographic pattern for the purpose of expanding a core of incident light into a larger cone of exodus is clearly suggested to one skilled in the art as can be seen in the optical system provided by Kato et al. See column 8 and fig. 9. Thus, it would have been obvious to one skilled in the art at the time the invention was made to modify the optical system provided by Freeman by using a curved holographic reflecting element in place of a curved reflecting element as suggested by Kato et al for the purpose of expanding the core of an incident light beam.

3. Claims 32-45, as best as understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over Kato et al (U.S. Patent No. 5,187,597) with or without Opittek et al (U.S. Patent No. 3,915,548).

Kato et al disclose an optical display apparatus. The apparatus comprises an information source (1), a means (3) in the form of a lens for forming an intermediate image, a concave holographic reflector (4) disposed at the position of the intermediate image for reflecting the intermediate image to an observer. With regard to the feature concerning the re-imaging means for re-imaging the intermediate image reflected from the curved holographic reflector, such a feature is able to read from the display apparatus because the re-imaging means as claimed can be

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the eyes of an observer as admitted by the applicant in the present specification at column 3 (lines 24-27). As such the optical display apparatus provided by Kato meets all of the features recited in claims 32-45 except the feature concerning the type of the source for providing light to the imaging means. In other words, while Kato discloses the use of an information source, he does not clearly state the information source can be a source which provides a modulated scanning light. However, the feature concerning the type of the information source as claimed is merely that of a preferred embodiment and no criticality has been disclosed. The support for this conclusion is found in the present specification at column 4 (lines 20-23) in which applicant has admitted that the information source can be a cathode-ray-tube or a liquid crystal display. In this aspect, the optical apparatus of Kato meets the requirement. See Kato et al, column 1, lines 36-38. Furthermore, the use of an information source in the form of a source providing modulated scanning light in place of a cathode-ray-tube is known to one skilled in the art as can be seen in the optical system provided by Opittek et al. In particular, at column 6 (lines 64-68), Opittek et al teach that the image source can be a cathode-ray-tube or a modulated laser scanning system. Thus, absent any showing of criticality as well as the specific structure of the image source in the form of the modulated scanning light source, it would have been obvious to one skilled in the art at the time the invention was made to modify the optical system of Kato et al by using a modulated laser scanning system or other information source known to one skilled in the art in the system of Kato et al for the purpose of satisfying a particular application or for the purpose of providing a system with better optical performance.

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4. Claims 32-45, as best as understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over Wood (U.S. Patent No. 4,669,810) in view of Kato et al (U.S. Patent No. 5,187,597) with or without Opittek et al (U.S. Patent No. 3,915,548).

Wood discloses an optical system having an information source in the form of a cathode-ray-tube (20), a means (26) including a plurality of lens elements for forming an intermediate image (54) of the information source, a reflective holographic element (28) disposed near the intermediate image for reflecting the image towards an optical system (32,34,36) for re-imaging the intermediate image for the purpose of providing an image to an observer. See Wood, columns 3-4 and 6-7 and figs. 2-4. It is also noted that the holographic element (28) has a curved surface and used to correct for the aberrations caused by the reimaging means as can be seen in columns 3-4 and 6. While Wood teaches the arrangement of the holographic element (28) near the position of the intermediate image formed by the imaging means (26), he does not clearly state that the position of the holographic element is located proximately to the position of the intermediate image as claimed. However, the use of an information source, a means for forming an image of the source, and a curved reflecting element at the position of the intermediate image is suggested to one skilled in the art as can be seen in the optical system provided by Kato et al. See column 8 and fig. 9. Thus, it would have been obvious to one skilled in the art at the time the invention was made to modify the optical system provided by Wood by rearranging the position of the holographic element (28) at a position proximately or on the position of the intermediate image formed by the imaging means as suggested by Kato et al for the purpose of providing an image

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with better focus and brightness while still maintaining the function of correcting the image aberrations occurred by the imaging means and the reimaging means in the system.

With regard to the feature concerning the type of the source for providing light to the imaging means. In other words, while Kato et al discloses the use of an information source, and Wood discloses that the image source is a cathode-ray-tube, both Wood and Kato et al do not clearly state the information source can be a source which provides a modulated scanning light. However, the feature concerning the type of the information source as claimed is merely that of a preferred embodiment and no criticality has been disclosed. The support for this conclusion is found in the present specification at column 4 (lines 20-23) in which applicant has admitted that the information source can be a cathode-ray-tube or a liquid crystal display. In this aspect, each the optical apparatus of Kato et al or Wood meets the requirement. Furthermore, the use of an information source in the form of a source providing modulated scanning light in place of a cathode-ray-tube is known to one skilled in the art as can be seen in the optical system provided by Opittek et al. In particular, at column 6 (lines 64-68), Opittek et al teach that the image source can be a cathode-ray-tube or a modulated laser scanning system. Thus, absent any showing of criticality as well as the specific structure of the image source in the form of the modulated scanning light source, it would have been obvious to one skilled in the art at the time the invention was made to modify the combined product as provided by Wood and Kato et al by using a modulated laser scanning system or other information source known to one skilled in the art in the

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system of Kato for the purpose of satisfying a particular application or for the purpose of providing a system with better optical performance.

5. Claims 1-2, 7, 10-12, 15-16, 29 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Macken (U.S. Patent No. 4,480,169).

Macken discloses an optical system. The optical system comprises a light source means having a laser source (10), a focusing lens (14), a scanning system (16,18), a cylindrical mirror (20) having a concave surface facing the direction of the incident light beam, a second focus lens (24) for reimaging the intermediate image formed by the light source means and the first focusing lens (14). The cylindrical mirror (20) is disposed at the position of the intermediate image formed by the focusing lens (14). As a result of such a arrangement of the mirror at the position of the intermediate image, the image formed by the focusing lens (14) will be reversed in orientation after it is reflected from the mirror (20). As such, the optical system provided by Macken meets all of the limitations of the mentioned claims except that Macken does not clearly state that the lens (14) and the lens (24) are similar to each other. However, it would have been obvious to one skilled in the art at the time the invention was made to use the same type of lens for each of the focusing lenses (14) and (24) for the purpose of canceling the aberrations occurred in the system due to the aberrations produced by the first focusing lens (14).

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6. Claims 3-5, 8-9, 17-28, 31-48, 51-61 and 64, as best as understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over Macken (U.S. Patent No. 4,480,169) in view of Kato et al (U.S. Patent No. 5,187,597).

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The optical system as provided by Macken as described above meets all of the limitations of the device as claimed except the feature that the cylindrical mirror having a light redistributing surface for the purpose of expanding the core of incident light beam and its exit pupil. However, the use of a curved reflecting surface having a means for expanding core of an incident light beam is suggested to one skilled in the art as can be seen in the optical system provided by Kato et al. In particular, Kato et al disclose an optical display apparatus. The apparatus comprises an information source (1), a means (3) in the form of a lens for forming an intermediate image, a concave holographic reflector (4) disposed at the position of the intermediate image for reflecting the intermediate image to an observer. Thus, it would have been obvious to one skilled in the art at the time the invention was made to modify the optical system of Macken by using a curved reflecting mirror having a light redistributing surface in the form of a holographic pattern as suggested by Kato et al for the purpose of expanding the core of a light beam incident on the curved reflective element.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

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Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-3, 5, 9-12, 14-20, 25-31, 47-49, 52-55 and 56, as best as understood, are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 5-8, 10-12 and 17 of U.S. Patent No. 5,673,146. Although the conflicting claims are not identical, they are not patentably distinct from each other because the mentioned claims of the Patent '146 disclose an optical system having means for forming an intermediate image, a means for reversing the aberration of the imaging means wherein the means for reversing the aberration comprises a convergent reflective surface having a Fresnel pattern and is positioned proximate the position of the intermediate image, and a means for re-imaging the intermediate image wherein the re-imaging means produces aberrations similar to the aberration produced by the imaging means for the purpose of canceling such the aberration of the imaging means. It is noted that the features concerning the structure of the imaging means, means for reversing the aberration, and re-imaging means is read from the specification (35 USC 112, sixth paragraph) which has structure similar to the structure of the means used in the claims of the present application .

Conclusion

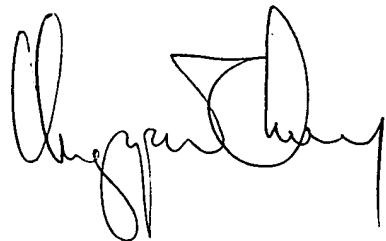
1. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

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2. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Exam. Nguyen whose telephone number is (703) 308-4814. The fax phone number for the organization where this application or proceeding is assigned is (703) 308-7722 (or 7724). Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Nguyen

09/09/00

A handwritten signature in black ink, appearing to read "Thong Nguyen".

Thong Nguyen
Primary Examiner